

# Addressing antimicrobial resistance in the UK and Europe

Piddock, Laura; Wells, Victoria

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# **Addressing Antimicrobial Resistance in the UK and Europe: How successful have we been?**

Victoria Wells<sup>1</sup> and Laura JV Piddock<sup>2\*</sup>

<sup>1</sup>British Society for Antimicrobial Chemotherapy, 53 Regent Place, Birmingham, B1 3NJ

<sup>2</sup>Institute of Microbiology and Infection, University of Birmingham, Edgbaston, B15 2TT

\*Corresponding author

Antimicrobial resistance (AMR) has received significant attention in recent years. As bacteria evolve to resist the effects of existing antibiotics, infections become more difficult to treat and modern medical interventions become more dangerous to perform. Fear of so-called “superbugs” has spurred international authorities into action. In 2011, the World Health Organization (WHO) developed a European Strategic Action Plan on Antibiotic Resistance, which set forth strategic objectives to aid European Member States in addressing the complex factors that drive AMR<sup>1</sup>. In response, both the European Commission (EC) and the United Kingdom (UK) devised their own strategies to meet these objectives.

In 2011, the EC published its Action Plan, “Against the rising threats from Antimicrobial Resistance”, which laid out 12 recommendations for its Member States to implement<sup>2</sup>. This was accompanied in 2013 by a Road Map document detailing specific activities and milestones to satisfy each of the Plan’s recommendations; this was updated in 2016 to reflect an evaluation of the Plan<sup>3,4</sup>. The UK replaced its existing AMR Action Plan from 2000 with a new and improved Five Year Antimicrobial Resistance Strategy 2013-2018<sup>5,6</sup>. This strategy went beyond that of the EU, incorporating aims to increase awareness, promote stewardship of current therapies, and stimulate the development of new treatments. These strategies were met with enthusiasm by the global community and certain objectives have been implemented beyond European borders. In 2011, the Transatlantic Taskforce on Antimicrobial Resistance (TATFAR) was established to improve collaboration between Europe and North America<sup>7</sup>.

With mounting political pressure for countries to address AMR, we critically appraised and evaluated the extent to which the recommendations of the UK and EU strategies have been implemented and produced a report for the UK All Party Parliamentary Group on Antibiotics<sup>8,9</sup>. We did not review the 2015 WHO Global Action Plan on AMR or the 2017 European One Health Action Plan Against AMR as the objectives of the Global Plan are too general and the EU has not had sufficient time to address the EU One Health Plan<sup>9,10</sup>.

Except for three key areas, the available evidence suggests that the UK and many EU member states have been successful in implementing the AMR strategies. There was a lack of evidence indicating significant activity to regulate and restrict non-prescription use of critically important antibiotics in humans, animals, and agriculture, both among EU countries and within the UK. Likewise, it appears that little has been done to evaluate the need for incentives to stimulate research and development of veterinary medicines. Finally, all regions appear to have struggled to address the recommendations regarding education and awareness. This lack of progress could be due to unsatisfactory action by regional and national authorities and/or a lack of tangible outcomes by which to measure success.

To facilitate collaboration and accountability, the language used throughout the various documents should be improved. The strategies employ vague recommendations and many lack measureable targets and objectives. The subjective terminology, such as “improve” and “promote”, used throughout all strategies may have limited the impetus for definitive action by governments and delegated authorities. This is because it allows them to ‘tick boxes’ with no requirement to evaluate the intervention’s success. Without measureable targets it is unrealistic to expect that governments will invest the necessary funds to deliver interventions with impact. Even if they do, it is difficult to identify evidence of this impact, or even of the activity itself. There is also inconsistency between the strategies themselves in regards to terminology, compliance areas, and recommendations, making it difficult to discern whether the EU and UK regional action plans have successfully satisfied the overarching WHO Action Plan.

The UK and other EU Member States have made progress in addressing AMR by meeting the majority of the AMR Strategy recommendations, which in turn satisfy those of the WHO-Europe Plan. However, to facilitate collaboration and coordination these strategies should be harmonised. Further activity to satisfy both of these plans is also recommended. First, a review into the progress of discovery, research, and development of new human and veterinary treatments including new

drugs should be coordinated. Second, review on restrictions on the use of last resort antibiotics in veterinary medicine should be continued. Third, a compendium of harmonised educational tools on AMR should be developed. Finally, there should be careful evaluation of the efficacy of educational campaigns.

In summary, the UK and other European countries have made progress in addressing the complex issues of AMR. We look forward to the outcomes of upcoming G20 discussions and the new WHO AMR Strategy and hope to see greater regulation and increased accountability in future regional and national strategies through SMART (specific, measurable, attainable, realistic, and timely) objectives that clearly demonstrate compliance with the WHO Action Plan.

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